WHAT IS CLAIMED IS:

1. A vascular prosthetic suitable for replacing a patient's damaged or missing pulmonary valve, said prosthetic comprising:

an inflow conduit comprising a manifold formed from the sealed attachment of a plurality of donor valved blood vessels, each of said blood vessels housing a biological valve integral therewith, said blood vessels configured to permit the flow of blood therethrough by the valve opening at a relatively low pressure and configured to prevent the backflow of blood therethrough by the valve closing so as to withstand relatively high pressures, said manifold formed upstream of each of the biological valves so as not to interfere with the effective operation of the biological valves, said inflow conduit having a resulting flow capacity following sealed attachment that is larger than the original flow capacity of each of the donor blood vessels, and

an outflow conduit positioned downstream of each of the biological valves.

2. The prosthetic of Claim 1 wherein said inflow conduit is configured to attach to the patient's heart to receive blood from the right ventricle.

3. The prosthetic of Claim 1 wherein said outflow conduit is configured to attach to the patient's pulmonary artery downstream of the patient's pulmonary valve that is damaged or missing.

4. The prosthetic of Claim 1 wherein the inflow conduit manifold is formed in a manner so that the angle of transition of the blood running therethrough at the inflow conduit manifold is less than about 30°.

5. The prosthetic of Claim 1 wherein the biological valves open at pressures as low as about 1 mm Hg and wherein the biological valves remains sealably closed so as to withstand backflow pressures greater than about 200 mm Hg.

6. The prosthetic of Claim 1 wherein the outflow conduit also has a manifold formed from the sealed attachment of said plurality of valved blood vessels, said outflow conduit manifold formed downstream of said biological valves so as not to interfere with the effective operation of the biological valves, said outflow conduit

having a resulting cross-sectional area larger than the original cross-sectional area of each of the blood vessels.

7. The prosthetic of Claim 6 wherein the outflow conduit manifold is formed in a manner so that the angle of transition of the blood running therethrough at the outflow conduit manifold is less than about 30°.

8. The prosthetic of Claim 1 or 6 wherein the outflow conduit is configured to attach to the patient's pulmonary artery at a point downstream of the patient's pulmonary valve that is damaged or missing.

9. The prosthetic of Claim 1 further comprising a second outflow conduit positioned at the downstream side of the biological valves, the second outflow conduit configured to attach to the patient's pulmonary artery at a point downstream of the patient's pulmonary valve that is damaged or missing.

10. The prosthetic of Claim 9 wherein the first outflow conduit is configured to connect to the left pulmonary artery and the second outflow conduit is configured to connect to the right pulmonary artery.

11. The prosthetic of Claim 1 wherein the resulting diameter of said valved conduit is greater than 22 mm.

12. The prosthetic of Claim 11 wherein the resulting diameter of said valved conduit is greater than 28 mm.

13. The prosthetic of Claim 1 wherein the axial seam is made by slicing away a portion of the upstream side of each biological valved blood vessel and suturing the blood vessels together with a single pass of stitches on the interior of said blood vessels so as to maintain a relatively smooth interior lumen surface.

14. The prosthetic of Claim 9 wherein the axial seam is made by slicing away a portion of the downstream side of each biological valved blood vessel and suturing the blood vessels together with a single pass of stitches on the interior of said blood vessels so as to maintain a relatively smooth interior lumen surface.

15. The prosthetic of Claims 13 or 14 wherein the single pass of stitches comprises a plurality of knots.

16. The prosthetic of Claims 13 or 14 wherein the axial seam further comprises a plurality of passes of stitches on the exterior of the blood vessels so as to reinforce the seam.

17. The prosthetic of Claim 1 wherein the biological valved blood vessels each comprise a vein segment.

18. The prosthetic of Claim 17 wherein the biological valved blood vessels each comprise the jugular vein of a donor quadruped or marsupial.

19. The prosthetic of Claim 18 wherein the biological valved blood vessels each comprise the jugular vein of a donor caprine, cervine, canine, ovine, bovine, equine or marsupial.

20. The prosthetic of Claim 1 wherein the inflow conduit results from the splicing of two biological valved blood vessels.

21. The prosthetic of Claim 17 wherein the biological valves are naturally formed within the vein segments.

22. The prosthetic of Claim 21 wherein the biological valves are venous valves.

23. The prosthetic of Claim 1 wherein the biological valves have been fixed.

24. A method of forming a vascular prosthetic that is suitable for implantation within a human to restore pulmonary valvular function, said method comprising the steps of:

extracting first and second vein segments from a biological source, each vein segment having at least one naturally formed venous valve formed therein, each vein segment further having an unvalved portion which is upstream from the at least one venous valve; and

laterally joining the vein segments along the unvalved portions thereof to form an inflow conduit having a cross sectional area that is substantially larger than the cross sectional area of either the first or the second vein segment.

25. The method of Claim 24 further comprising the step of treating the vein segments to preserve the competency of the naturally-formed venous valves.

26. The method of Claim 25 wherein the step of treating the vein comprises fixing the vein with an aldehyde solution.

27. The method of Claim 25 wherein the step of treating the vein comprises using gamma radiation.

28. The method of Claim 25 wherein the step of treating the vein comprises using polyepoxy compounds.

29. A method of treating a damaged or missing pulmonary valve in a patient, said method comprising the steps of using two or more donor, venous, valvular vessels spliced together to form a single vascular prosthetic having an inflow portion that has a cross-sectional area larger than the cross-sectional area of any of said donor venous valvular blood vessels.

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